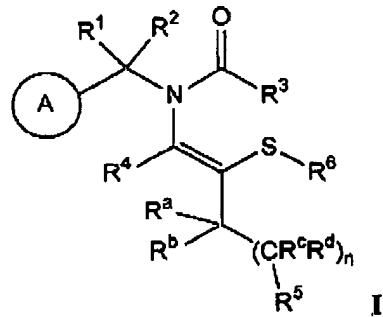


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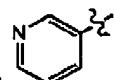
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Claim Amendments.

1. (currently amended): A compound of formula I:



or a pharmaceutically acceptable salt, ester, salt of an ester, stereoisomer, enantiomer, isotope, or tautomer thereof, wherein:



ring A is optionally substituted and is ;

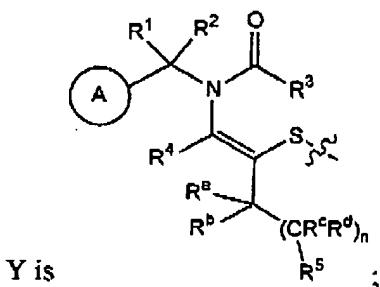
each R¹ and R² is independently H, alkyl, or fluoroalkyl;

R³ is H, alkyl, fluoroalkyl, aralkyl, carbocyclylalkyl, heterocyclyl, carbocyclyl, heterocyclylalkyl, aryl, heteroaryl, heteroaralkyl, -C(O)R, -OR, -(CH₂)₁-₆OR, -(CH₂)₁-₆N(R)₂, -N(R)₂, or -C(H)(OR)R;

R⁴ is H, alkyl, fluoroalkyl, -CO₂R, -CON(R)₂, carbocyclyl, carbocyclylalkyl, heteroaryl, or heterocyclyl;

R⁵ is -OR⁷ or -NR⁸R⁹;

R⁶ is -C(O)R, -C(S)R, -C=C-C(O)R, -SR, -S-W-OR⁷, or Y;



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R<sup>7</sup> is R°, -C(O)R, -C(O)N(R)<sub>2</sub>, -C(O)OR, -(CH<sub>2</sub>)<sub>1-6</sub>-C(O)R, -PO<sub>3</sub>M<sub>x</sub>, -P(O)(alkyl)OM', -(PO<sub>3</sub>)<sub>2</sub>M<sub>y</sub>, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl;  
x is 1 or 2;  
y is 1, 2 or 3;  
each M is independently H, Li, Na, K, Mg, Ca, Mn, Co, Ni, Zn, or alkyl;  
M' is H, Li, Na, K, or alkyl;  
R<sup>8</sup> is H or alkyl;  
R<sup>9</sup> is H, alkyl, -C(O)R, -C(O)N(R)<sub>2</sub>, -C(O)OR, -SO<sub>2</sub>R, -SO<sub>2</sub>N(R)<sub>2</sub>, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl;  
each R<sup>a</sup> and R<sup>b</sup> is independently H, OR°, alkyl, or fluoroalkyl;  
each R<sup>c</sup> and R<sup>d</sup> is independently H, alkyl, or fluoroalkyl;  
n is 0-4;  
W is alkylene, arylene, heteroarylene, carbocyclylene, or heterocyclylene;  
R° is H or alkyl; and  
R is R°, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl.

2. (previously presented) The compound of claim 1, wherein R<sup>6</sup> is Y or -SR.

3. (cancelled).

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4. (previously presented) The compound of claim 1, wherein:

- i) R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are independently H, C<sub>1-6</sub> alkyl or fluoro(C<sub>1-6</sub> alkyl);
- ii) R<sup>3</sup> is H, alkyl, fluoroalkyl, -(CH<sub>2</sub>)<sub>1-6</sub>OR, -(CH<sub>2</sub>)<sub>1-6</sub>N(R)<sub>2</sub>, -C(O)R, -C(H)(OR)R, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl;
- iii) R<sup>6</sup> is -C=C-C(O)R, -SR, -S-W-OR<sup>7</sup>, or Y;
- iv) R<sup>7</sup> is H, alkyl, -C(O)R, -PO<sub>3</sub>M<sub>x</sub>, -(PO<sub>3</sub>)<sub>2</sub>M<sub>y</sub>, -P(O)(alkyl)OM<sup>r</sup>, -C(O)N(R)<sub>2</sub>, or -C(O)OR; or R<sup>9</sup> is H, alkyl, -C(O)R, -C(O)N(R)<sub>2</sub>, -C(O)OR, -SO<sub>2</sub>R, 5-membered heterocyclyl, or a 5-membered heteroaralkyl; and
- v) n is 1.

5. (previously presented) The compound of claim 4, wherein R is R<sup>0</sup>, carbocyclyl, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl or heteroaralkyl.

6. (previously presented) The compound of claim 5, wherein R<sup>0</sup> is H or C<sub>1-6</sub> alkyl optionally substituted with halo, hydroxy or amino.

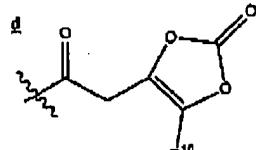
7. (previously presented) The compound of claim 4, wherein:

- i) ring A is optionally substituted with -NH<sub>2</sub>, alkyl, -OC(O)R<sup>†</sup>, halo, -OR<sup>†</sup>, -CF<sub>3</sub>, -OCF<sub>3</sub>, -SCF<sub>3</sub>, -SR<sup>†</sup>, -R<sup>†</sup>, -NR<sup>†</sup>C(O)R<sup>†</sup>, -CO<sub>2</sub>R<sup>†</sup>, -NO<sub>2</sub>, -N(R<sup>†</sup>)<sub>2</sub>, -CN, -C(O)R<sup>†</sup>, -C(O)N(R<sup>†</sup>)<sub>2</sub>, -SO<sub>2</sub>N(R<sup>†</sup>)<sub>2</sub>, -NR<sup>†</sup>CO<sub>2</sub>R<sup>†</sup>, -C(O)C(O)R<sup>†</sup>, -OC(O)N(R<sup>†</sup>)<sub>2</sub>, -S(O)<sub>t</sub>R<sup>†</sup>, -C(O)CH<sub>2</sub>C(O)R<sup>†</sup>, -NR<sup>†</sup>SO<sub>2</sub>R<sup>†</sup>, or -C(=S)N(R<sup>†</sup>)<sub>2</sub>; and R<sup>†</sup> is 3-6 membered unsubstituted cycloalkyl, phenyl, benzyl, naphthyl, pyridyl, or C<sub>1-6</sub> alkyl optionally substituted with halo;
- ii) R<sup>3</sup> is H, C<sub>1-6</sub> alkyl, -(CH<sub>2</sub>)<sub>1-6</sub>OR<sup>0</sup> or -CH(OR<sup>0</sup>)R<sup>0</sup>;
- iii) R<sup>6</sup> is -C=C-C(O)R, -SR, -S-W-OR<sup>7</sup> or Y; and
- iv) R<sup>8</sup> is H or C<sub>1-6</sub> unsubstituted alkyl.

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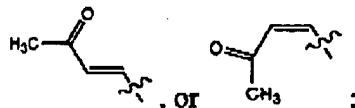
8. (currently amended) The compound of claim 7, wherein R<sup>7</sup> or R<sup>9</sup> is H, a polysaccharide, or



, wherein R<sup>10</sup> is H, alkyl, or aryl.

9. (currently amended) The compound of claim 7, wherein:

- i) R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are independently H, methyl, ethyl, -CH<sub>2</sub>F, -CHF<sub>2</sub>, or -CF<sub>3</sub>;
- ii) R<sup>3</sup> is H, methyl, ethyl, -CH(OH)CH<sub>3</sub>, -CH<sub>2</sub>OH, or -CH<sub>2</sub>CH<sub>2</sub>OH;
- iii) R<sup>6</sup> is -S-(heterocyclalkyl), (-S-(unsubstituted C<sub>1-6</sub> alkyl), Y,

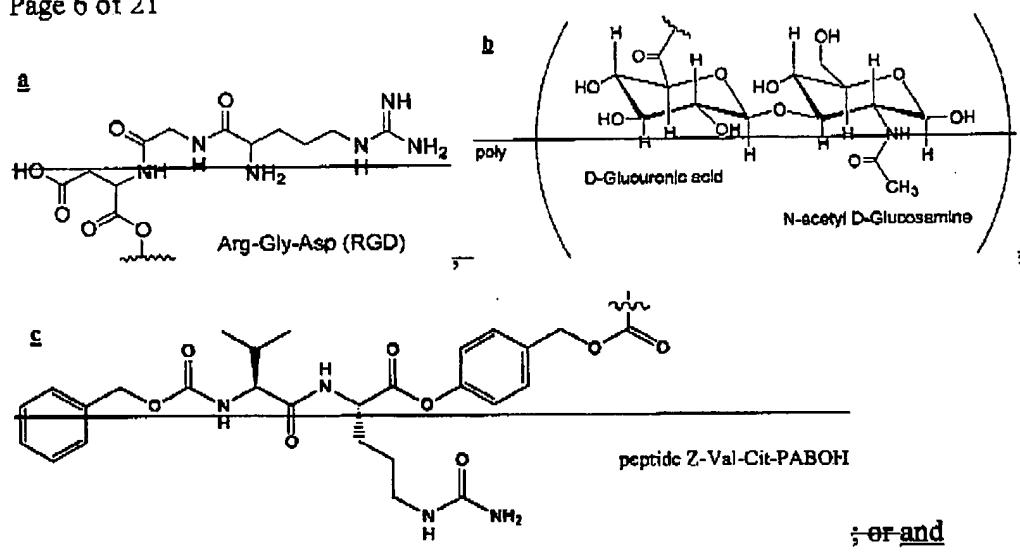


- iv) R<sup>8</sup> is H, methyl, or ethyl; and

- v) R<sup>7</sup> is H, methyl, ethyl, -C(O)Me, -C(O)Et, -C(O)NMe<sub>2</sub>, -C(O)-p-OMe-phenyl, -C(O)O-phenyl, -PO<sub>3</sub>H<sub>2</sub>, -P(O)(OMe)<sub>2</sub>, -P(O)(OMe)OH, -P(O)(Me)OH, or -P(O)(OH)OP(O)(OH)(OH); and R<sup>14</sup> is selected from the group consisting of:

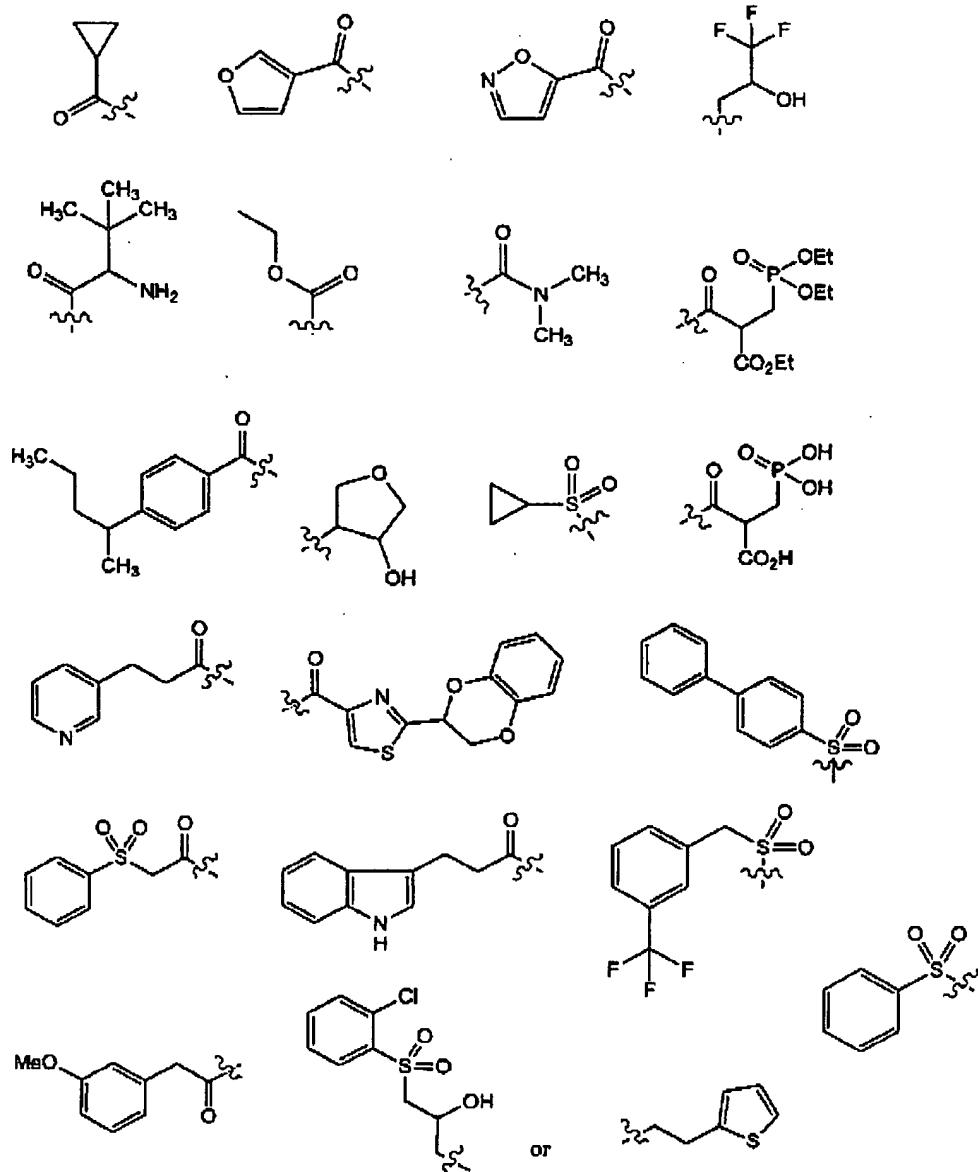
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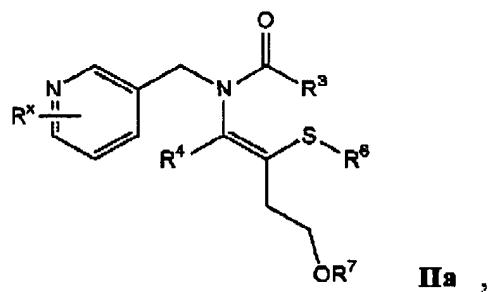


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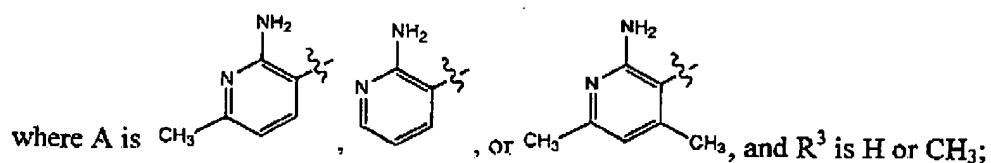
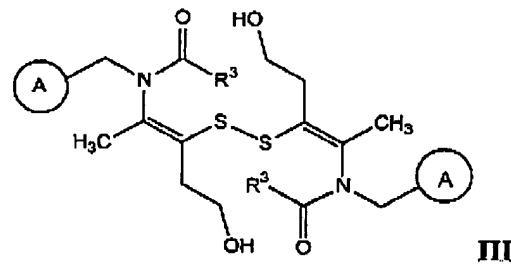
10. (currently amended) The compound of claim\_1, wherein said compound is selected from the group consisting of the compounds of:

(1) formula IIa:



where R<sup>3</sup> and R<sup>4</sup> are independently H or alkyl, R<sup>6</sup> is -SR, R<sup>7</sup> is R°, and R<sup>x</sup> can be the same or different and is selected from the group consisting of alkyl and NH<sub>2</sub>;

(2) formulae III:

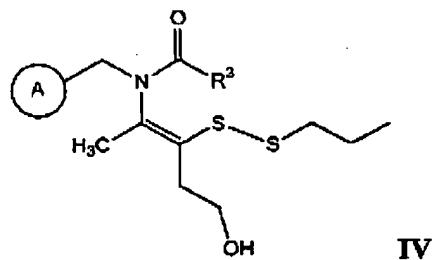


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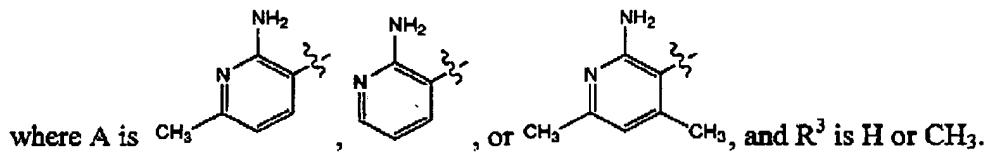
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and

(3) formulae IV :



IV



11. (previously presented) A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

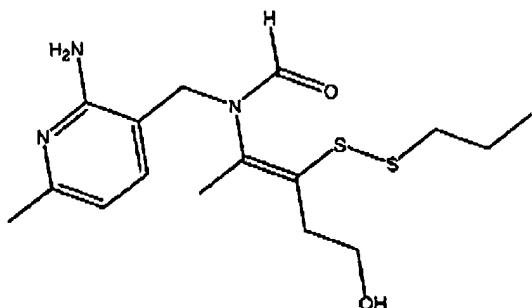
12.-22. (cancelled).

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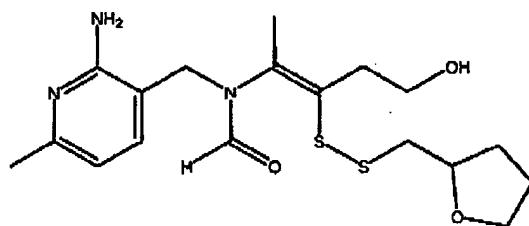
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23. (currently amended) A compound of the formula:

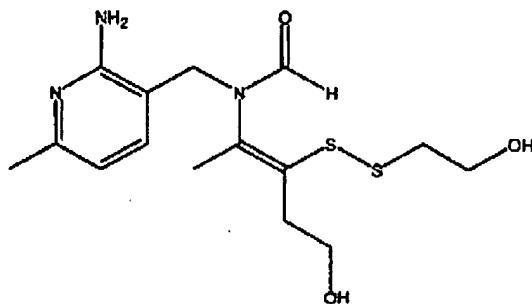
(a)



(b)



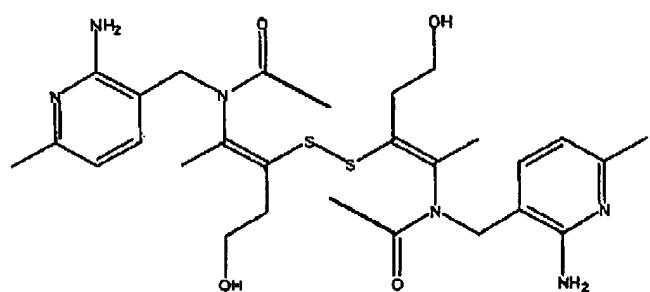
(c)



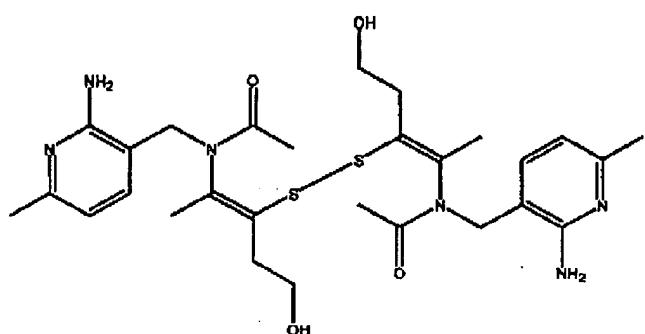
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(d)



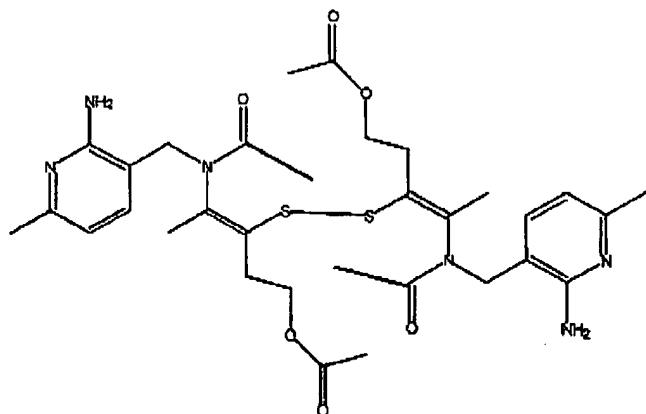
(e)



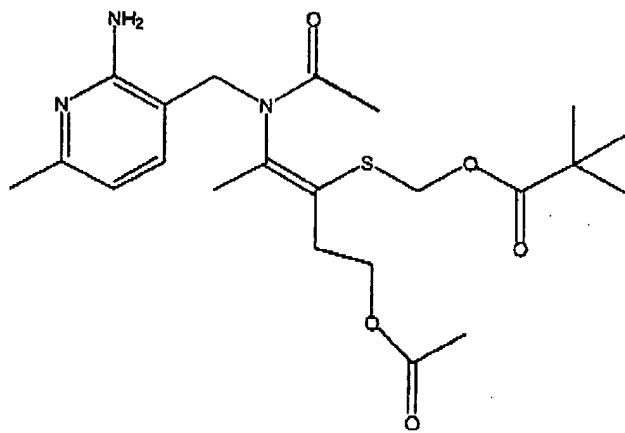
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(f)



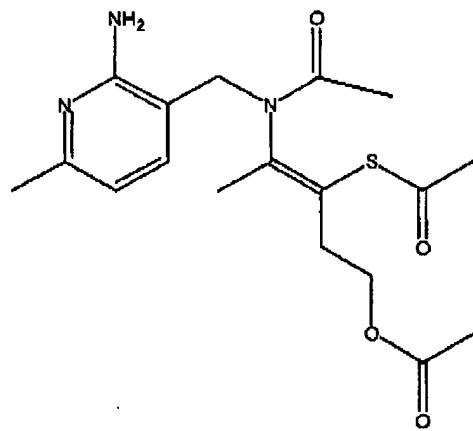
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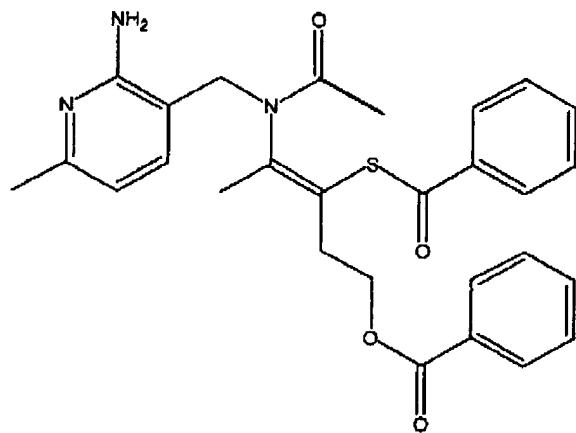
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(h)



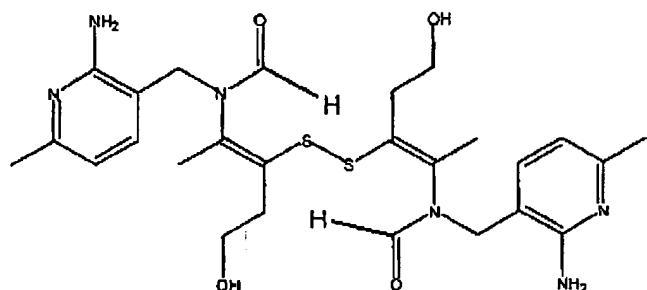
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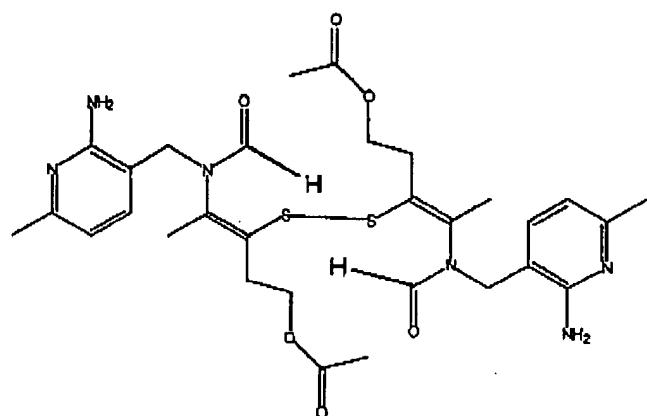
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(j)



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(k)

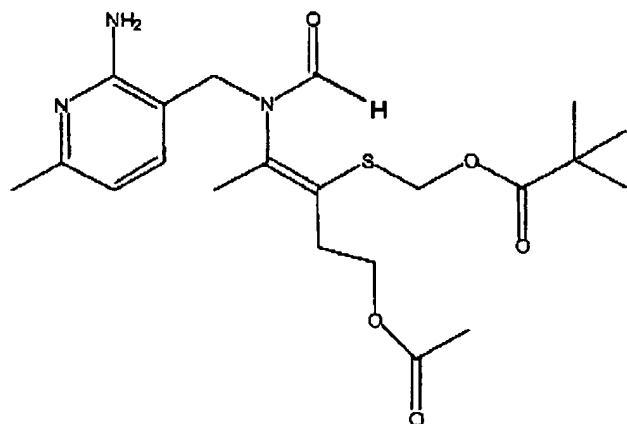


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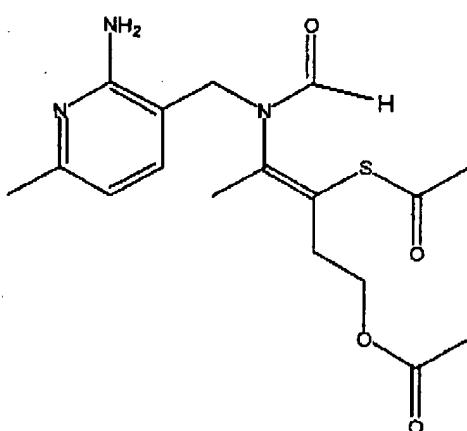
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(l)



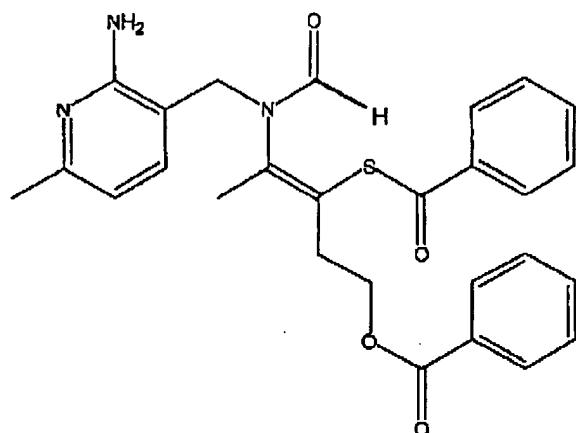
(m)



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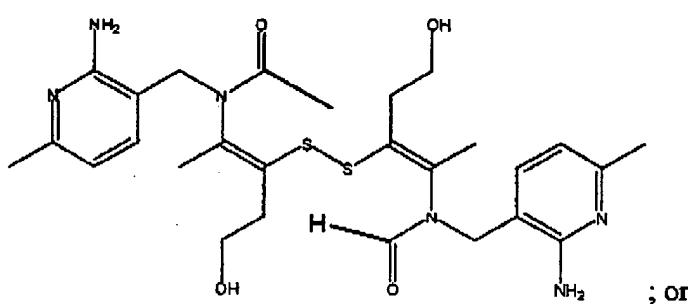
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(n)



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(o)

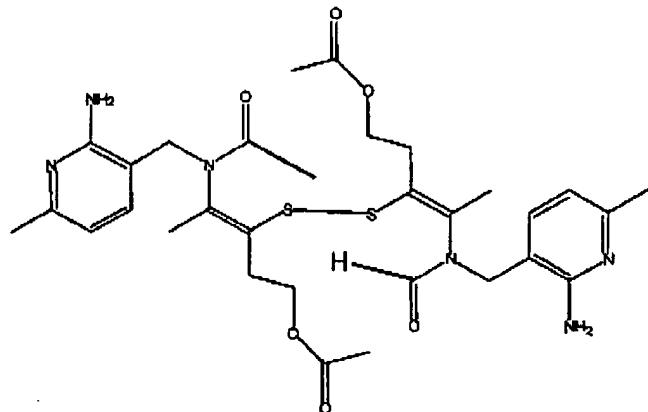


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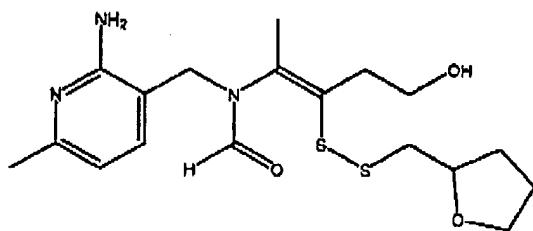
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(p)



or a pharmaceutically acceptable salt, ester, salt of an ester, stereoisomer, enantiomer, isotope, or tautomer thereof.

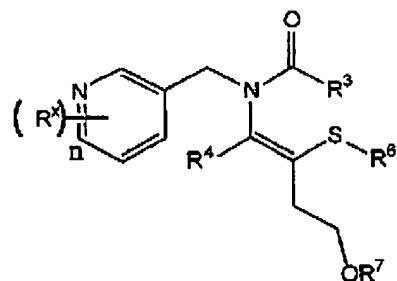
24. (previously presented) The compound of claim 23, wherein the compound is:



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25. (currently amended) A compound of the formula



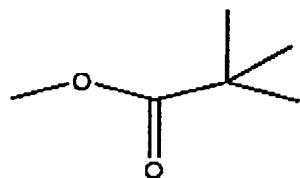
or a pharmaceutically acceptable salt, ester, salt of an ester, stereoisomer, enantiomer, isotope, or tautomer thereof, wherein:

(a) R<sup>3</sup> and R<sup>4</sup> may each be the same or different to the extent they occur more than once in the compound and are independently H or alkyl;

(b) R<sup>7</sup> may be the same or different to the extent it occurs more than once in the compound and is independently R° or -C(O)R, where R° is H or alkyl and R is R°, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl;

(c) R<sup>1</sup> may be the same or different to the extent it occurs more than once in the compound and is independently alkyl or NH<sub>2</sub>;

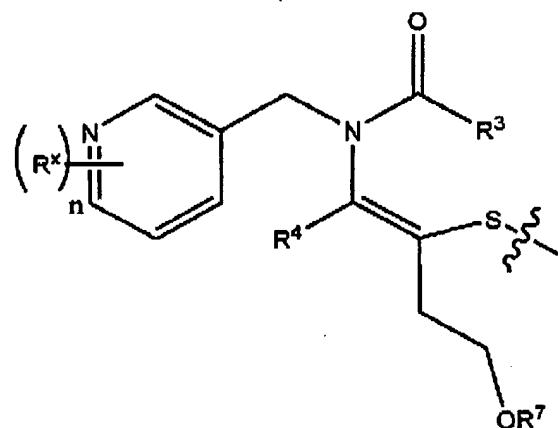
(d) R<sup>6</sup> is -SR, -C(O)R,



, or

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; and

(e) n is 0, 1, 2, or 3.